

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (previously presented): A method for resynchronizing a primary volume in a primary system and a secondary volume in a secondary system over a network, comprising:

when a network connection between the primary system and the secondary system is interrupted:

creating a snapshot of the primary volume, the snapshot identifying only original data from the primary volume that are overwritten after the snapshot is created;

determining data updates transmitted from the primary system to the secondary system that were not acknowledged by the secondary system;

when the network connection is reestablished:

based on the snapshot, determining new data written to the primary volume between when the network connection is interrupted and reestablished; and

transmitting the new data and the unacknowledged data updates from the primary system to the secondary system.

Claim 2 (previously presented): The method of claim 1, further comprising, when the network connection is reestablished, updating the secondary volume with the new data and the unacknowledged data updates, wherein the secondary volume becomes an updated copy of the primary volume.

Claim 3 (original): The method of claim 1, prior to said creating a snapshot, further comprising blocking writes to the primary volume.

Claim 4 (original): The method of claim 3, after said creating a snapshot and said determining data updates, further comprising resuming writes to the primary volume.

Claim 5 (original): The method of claim 1, further comprising deleting the snapshot after said transmitting.

Claim 6 (previously presented): The method of claim 1, wherein said determining new data comprises:

searching for exceptions in exception tables in the snapshot, wherein the exception tables only identify the original data that were (1) in the primary volume at a time the snapshot was created and (2) later overwritten after the snapshot was created; and
based on the original data in the snapshot, looking up the new data in the primary volume that correspond to the original data.

Claim 7 (currently amended): A method for resynchronizing a primary volume in a primary system and a secondary volume in a secondary system over a network, comprising:

when a network connection between the primary system and the secondary system is interrupted:

blocking writes to the primary volume;

creating a snapshot of the primary volume, the snapshot identifying only original data from the primary volume that are overwritten after the snapshot is created;

resuming writes to the primary volume;

when the network connection is reestablished:

based on the snapshot, determining new data written to the primary volume between when the network connection is interrupted and reestablished, said determining comprising:

searching for exceptions in exception tables in the snapshot, wherein the exception tables only identify the original data that were (1) in the primary volume at a time the snapshot was created and (2) later overwritten after the snapshot was created;

based on the original data in the snapshot, looking up the new data in the primary volume that correspond to the original data;

transmitting the new data and the unacknowledged data updates from the primary system to the secondary system;

updating the secondary volume with the new data and the unacknowledged data updates, wherein the secondary volume becomes an updated copy of the primary volume; and
deleting the snapshot after said transmitting.